

REMARKS

Claims 1-36 are pending in the current application. Claims 1, 16, 18, 22, 27, 28, 31 and 33-35 are independent claims. Claim 36 is added by this Amendment.

Allowable Subject Matter

Initially, Applicant appreciates the Examiner's indication that claims 8-15 would be allowable if rewritten into independent form. Applicant respectfully submits that, in view of the remarks below, each presently pending claim should be allowed.

35 U.S.C. §102(b) Atkinson

Claims 1, 3, 6, 18-20, 34 and 35 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,883,884 ("Atkinson"). Applicant respectfully traverses this art grounds of rejection.

Atkinson is directed to a wireless digital communication system having hierarchical wireless repeaters with autonomous handoff. Claim 1 recites "a receiver capable of receiving signals on said at least two bi-directional communication frequencies simultaneously". The Examiner reads the claimed receiver upon receiver 702 of FIG. 7 and receiver 921 of FIG. 9 of Atkinson (e.g., see Page 3 of the 3/19/2009 Office Action). In this section, the Examiner indicates that frequencies F1/F2 are received at the same time slot 3, which indicates simultaneous operation. Applicant respectfully disagrees with the Examiner's conclusion on this point.

As an initial matter, the Examiner's indication that "repeaters are configured so that transmitter 701 and receiver 702 operate simultaneously" at Col. 8, lines 26-28 of Atkinson does

not appear particularly relevant to simultaneously receiving communications on two different frequencies. This section simply indicates that the repeater can transmit and receive at the same time; not receive two communications on two different frequencies at the same time.

Turning to FIG. 9 of Atkinson, Atkinson states that “an outbound TDM burst and an inbound TDMA burst are represented as containing eight time slots each. Base transmission 920 includes all eight time slots 901 *at frequency f1*”, and that “[r]emote unit 913 receives time slot 3 of the transmission 921 from the level one repeater and *transmits at frequency f2* a response to level one repeater *in time slot 3 of inbound time slots 904* for that repeater” (e.g., see Col. 9, lines 16-35 of Atkinson, Emphasis added). Accordingly, time-slot 3 of the F1 transmission from the base station to a level 1 repeater corresponds to an outbound TDM burst, and time-slot 3 of the F2 transmission from the level 1 repeater to a level 2 repeater corresponds to an inbound TDMA burst. With respect to TDM and TDMA bursts, Atkinson states that in numerous instances that “wherein said outgoing signal bursts and said incoming signal bursts alternate in time” (e.g., see claim 1 of Atkinson), “Outgoing signals, in the form of TDM time slots, alternate with incoming signals, in the form of TDMA slots, thereby permitting the use of a single transmitter and single receiver at each repeater arranged to switch between the two carrier frequencies employed by the repeater” (e.g., see Summary section of Atkinson), etc.

Accordingly, each repeater alternates between receiving data on a first frequency (e.g., F1), and transmitting the data on another frequency (e.g., F2). This would actually appear to preclude simultaneous receipt of communications on different frequencies. In other words, simultaneous operation of the repeater’s receiver and transmitter does not permit the repeater to actually receive data on different frequencies simultaneously.

Accordingly, Applicant respectfully submits that Atkinson cannot disclose or suggest “a receiver capable of receiving signals on said at least two bi-directional communication frequencies simultaneously” as recited in independent claim 1 and similarly recited in independent claims 18, 34 and 35.

As such, claims 3, 6 and 19-20, dependent upon independent claims 1 and 18, respectively, are likewise allowable over Atkinson at least by virtue of their dependency upon the independent claims.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

Further, for similar reasons as given above, Applicant respectfully submits that Atkinson cannot disclose or suggest “wherein the receiver splits a received signal into at least two split signals and processes the at least two split signals differently in order to decode at the least two bi-directional communication frequencies simultaneously” as recited in newly added claim 36.

35 U.S.C. §102(e) Leslie

Claim 33 stands rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,404,775 (“Leslie”). Applicant respectfully traverses this art grounds of rejection.

By the present Amendment, independent claim 33 has been amended to clarify that the “the wireless coverage extension device [is] further capable of receiving the wireless signals from the first and second wireless station devices on the first and second bi-directional communication links simultaneously”. A review of Leslie indicates that Leslie does not disclose or suggest this feature.

Accordingly, Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Atkinson in view of Leslie

Claims 2, 4, 7 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Atkinson in view of Leslie. Applicant respectfully traverses this art grounds of rejection.

Applicant respectfully submits that a review of Leslie indicates that Leslie cannot cure the suggestion and disclosure deficiencies of Atkinson given above with respect to independent claims 1 and 18. In particular, like Atkinson, Leslie does not disclose or suggest “a receiver capable of receiving signals on said at least two bi-directional communication frequencies simultaneously” as recited in independent claim 1 and similarly recited in independent claim 18.

As such, claims 2, 4, 7 and 21, dependent upon independent claims 1 and 18, respectively, are likewise allowable over Atkinson in view of Leslie at least by virtue of their dependency upon the independent claims.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Atkinson in view of Leslie in further view of Judd

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Atkinson in view of Leslie in further view of Judd. Applicant respectfully traverses this art grounds of rejection.

Applicant respectfully submits that a review of Judd indicates that Judd cannot cure the suggestion and disclosure deficiencies of Atkinson in view of Leslie given above with respect to independent claim 1. In particular, like Atkinson, Judd does not disclose or suggest “a receiver capable of receiving signals on said at least two bi-directional communication frequencies simultaneously” as recited in independent claim 1.

As such, claim 5, dependent upon independent claim 1, is likewise allowable over Atkinson in view of Leslie in view of Judd at least by virtue of its dependency upon the independent claim.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Atkinson in view of Leslie in further view of Milam

Claims 16, 17, 22 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Atkinson in view of Leslie in further view of Milam. Applicant respectfully traverses this art grounds of rejection.

Initially, for reasons given in preceding sections, the combination of Atkinson and Leslie cannot disclose or suggest “a receiver capable of simultaneously receiving a signal on either of said first and said second bi-directional communication frequencies” as recited in independent claim 16 and similarly recited in independent claim 22. A review of Milam indicates that Milam cannot cure this particular deficiency of Atkinson and/or Leslie.

As such, claims 17 and 23, dependent upon independent claims 16 and 22, respectively, are likewise allowable over Atkinson in view of Leslie in further view of Milam at least for the reasons given above with respect to the independent claims.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Atkinson in view of Milam in further view of Leslie

Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Atkinson in view of Milam in further view of Leslie. Applicant respectfully traverses this art grounds of rejection.

As discussed above, the combination of Atkinson, Leslie and Milam cannot disclose or suggest the claim limitation of “the repeater further configured to receive data from the base unit and the client unit on the first and second bi-directional communication links simultaneously” as recited in independent claim 22.

As such, claim 24, dependent upon independent claim 22, is likewise allowable over Atkinson in view of Milam in further view of Leslie at least for the reasons given above with respect to the independent claim.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Atkinson in view of Milam in further view of Judd

Claim 25 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Atkinson in view of Milam in further view of Judd. Applicant respectfully traverses this art grounds of rejection.

Initially, for reasons given in preceding sections, the combination of Atkinson and Milam cannot disclose or suggest “the repeater further configured to receive data from the base unit and the client unit on the first and second bi-directional communication links simultaneously” as recited in independent claim 22. A review of Judd indicates that Judd cannot cure this particular deficiency of Atkinson and Milam.

As such, claim 25, dependent upon independent claim 22, is likewise allowable over Atkinson in view of Milam in further view of Judd at least for the reasons given above with respect to the independent claim.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Atkinson in view of Milam in further view of Jin

Claim 26 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Atkinson in view of Milam in further view of Jin. Applicant respectfully traverses this art grounds of rejection.

Initially, for reasons given in preceding sections, the combination of Atkinson and Milam cannot disclose or suggest “the repeater further configured to receive data from the base unit and the client unit on the first and second bi-directional communication links simultaneously” as recited in independent claim 22. A review of Jin indicates that Jin cannot cure this particular deficiency of Atkinson and Milam.

As such, claim 26, dependent upon independent claim 22, is likewise allowable over Atkinson in view of Milam in further view of Jin at least for the reasons given above with respect to the independent claim.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Leslie in view of Jacobson

Claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Leslie in view of Jacobson. Applicant respectfully traverses this art grounds of rejection.

Independent claim 27, as presently amended, recites “the wireless coverage extension device including an indicator for providing a visual indication that indicates whether received signal levels from at least one of the station devices are sufficient for communication between at least one of the first and second wireless station devices and the wireless coverage extension device”.

Leslie is directed to a band-changing repeater with protocol or format conversion. Leslie's repeater receives signals in a first format, translates the signals into a second format and then re-transmits the signals in the translated, second format. The Examiner reads the claimed "indication that indicates whether received signal levels from at least one of the station devices are sufficient for communication" upon a detection of signal strength in Leslie, which is discussed primarily at Col. 11, lines 9-26 of Leslie with respect to a received signal strength indication (RSSI) detector 342. Basically, the RSSI detector 342 measures the signal strength of the intermediate frequency (IF) signal. Leslie states that a valid signal can be detected in part "by measuring the strength of the signal, or by demodulating the signal to detect whether valid data is being received, or both" (e.g., See Col. 13, lines 1-10).

Leslie uses the signal detection "to enable transmission of signals by the forward translation means 134 only when a signal is received from the 800 MHz TDMA cellular base station 114 on the channel, indicating that the channel is active" (e.g., see Col. 11, lines 9-26 of Leslie). Thus, when a signal is valid the repeater of Leslie will repeat the signal, and the repeater of Leslie will otherwise not repeat the signal.

As acknowledged by the Examiner, Leslie does not disclose that the RSSI detector 342 provides a "visual" indication of the RSSI-measurement (e.g., see Page 32 of the 3/19/2009 Office Action). Rather, the RSSI detector 342 only generates an internal RSSI signal from which other elements of the repeater can identify the signal strength. The Examiner cites to Jacobson as allegedly showing a visual indication (e.g., see Page 32 of the 3/19/2009 Office Action).

Applicant respectfully disagrees with the Examiner on two points.

First, Jacobson is directed to a control device that provides a visual indication of signal conditions on a selected control channel because a human operator is required to manually change the channels. This is why Jacobson needs a 'visual' indicator of the channel's condition.

In particular, Jacobson states:

The device of this invention overcomes the shortcomings of prior art control devices in providing means for generating a positive visual indication of the level of signals in the receiver control channel. This indication provides monitoring information indicative of the noise and interference signal conditions on the monitored channel at all times, thus enabling optimum channel selection.

(e.g., see Col. 1, lines 55-64 of Jacobson)

By contrast, Leslie's repeater is clearly automated and makes decisions on its own without a manual decision by a human operator. For this reason, adding a visual indicator to Leslie's repeater, as in Jacobson, appears to make little sense. In other words, in the normal operating scenario of Leslie's repeater, a human operator is not going to be present at each repeater location, so manual channel selection by human operators would not be used. Accordingly, this obviates the stated reason for why Jacobson includes a visual indication of channel quality.

Second, the RRSI detector 342 measures signal strength. Even assuming Leslie was modified to output the signal strength of the IF signal, an output of signal strength by itself would not constitute "a visual indication that indicates whether received signal levels from at least one of the station devices are sufficient for communication between at least one of the first and second wireless station devices and the wireless coverage extension device". Even assuming that signal strength by itself is sufficient to determine signal presence (*e.g., which is not necessarily the case, because the measured signal strength could simply correspond to noise and not an actual signal*), an indication of signal strength does not provide an indication of whether a signal level is sufficient for communication unless the operator is aware of a threshold signal

strength level for a comparison. Thus, even if a visual output of signal strength was added to Leslie, this would not correspond to the subject matter recited in independent claim 27.

As such, Leslie in view of Jacobson as applied by the Examiner cannot disclose or suggest “the wireless coverage extension device including an indicator for providing a visual indication that indicates whether received signal levels from at least one of the station devices are sufficient for communication between at least one of the first and second wireless station devices and the wireless coverage extension device” as recited in independent claim 27.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Leslie in view of Judd

Claim 28 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Leslie in view of Judd. Applicant respectfully traverses this art grounds of rejection.

Initially, for reasons given in preceding sections, Applicant respectfully submits that Leslie cannot disclose or suggest “the wireless coverage extension device further capable of receiving the wireless signals from the first and second wireless station devices on the first and second bi-directional communication links simultaneously” as recited in independent claim 28. A review of Judd indicates that Judd cannot cure this particular deficiency of Leslie.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Leslie in view of Judd in further view of Lau

Claims 29-30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Leslie in view of Judd in further view of Lau. Applicant respectfully traverses this art grounds of rejection.

Initially, for reasons given in preceding sections, Applicant respectfully submits that Leslie in view of Judd cannot disclose or suggest “the wireless coverage extension device further capable of receiving the wireless signals from the first and second wireless station devices on the first and second bi-directional communication links simultaneously” as recited in independent claim 28. A review of Lau indicates that Lau cannot cure this particular deficiency of Leslie and/or Judd.

As such, claims 29-30, dependent upon independent claim 28, are likewise allowable over Leslie in view of Judd in further view of Lau at least for the reasons given above with respect to the independent claim.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Lau (1st embodiment) in view of Lau (2nd embodiment) in view of Leslie

Claims 31-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Leslie a first embodiment of Lau in view of a second embodiment of Lau in further view of Leslie.

Applicant respectfully traverses this art grounds of rejection.

Applicant notes that the reasons for allowance as set forth on Page 27 of the 1/9/2008 Office Action indicate particular sections of claim 8 as distinguishing over the applied art. By the present Amendment, Applicant has amended independent claim 31 with subject matter similar to the subject matter indicated as allowable by the Examiner.

As such, claim 32, dependent upon independent claim 31, is likewise allowable over Lau (1st embodiment) in view of Lau (2nd embodiment) in further view of Leslie at least for the reasons given above with respect to the independent claim.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

Reconsideration and issuance of the present application is respectfully requested.

CONCLUSION

It is believed that all of the pending claims have been addressed in this paper. However, failure to address a specific rejection, issue, or comment, does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above are not intended to be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

In light of the amendments contained herein, Applicant submits that the application is in condition for allowance, for which early action is requested. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.


Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026. If a fee is required for an extension of time under 37 CFR 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

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